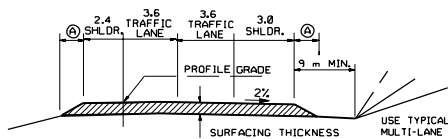


TYPICAL SLOPES

- A. A FIXED WIDTH TO BE ESTABLISHED TO THE NEAREST 0.15 m TO REMAIN CONSTANT EVEN UNDER CONDITIONS OF SUPERELEVATION PROVIDING A SLOPE OF NOT LESS THAN 1:6 THROUGHOUT EACH INDIVIDUAL PROJECT AS DETERMINED BY REQUIRED SURFACING THICKNESS.
- B. A MINIMUM 9 m HINGE POINT TO BE MAINTAINED REGARDLESS OF SURFACING THICKNESS. SEE NOTE 11.
- C. IN RUGGED TERRAIN STEEPER CUT AND FILL SLOPES WILL BE REQUIRED WHEN EXCESSIVE QUANTITIES WOULD RESULT WITH SPECIFIED SLOPES. SLOPES USED SHOULD BE STABLE AS DETERMINED BY GEOLOGICAL AND SOIL INVESTIGATION. SLOPES ARE ALSO SUBJECT TO VARIATION AS MAY BE RECOMMENDED WHERE EXISTING RIGHT OF WAY IS RESTRICTIVE AND COSTS FOR PROVIDING ADDITIONAL RIGHT OF WAY WOULD BE EXCESSIVE. WHERE A DESIGN EXCEPTION TO THE DITCH WIDTH SHOWN IS TO BE CONSIDERED FOR ROCK CUTS OVER 3 m, ROCKFALL CATCHMENT ANALYSIS WILL BE REQUIRED (SUCH AS RICHIE-1963), WITH DITCH WIDTH CONFORMING ACCORDINGLY.



NOTES:

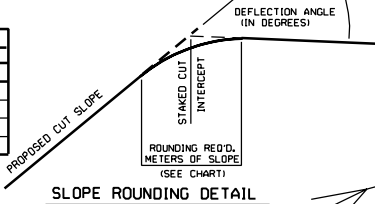
- ROADWAY DESIGNS SHALL BE CORRELATED WITH MANUAL OF INSTRUCTION ROADWAY DESIGN MANUAL UTAH STATE DEPARTMENT OF TRANSPORTATION.
- CURVATURE AND SUPERELEVATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 805-1.
- NORMAL INDEPENDENT ROADWAY DESIGN SHALL BE UTILIZED WITH A VARIABLE WIDTH MEDIAN. WHEN INDEPENDENT ROADWAY IS NOT ADAPTABLE TO TERRAIN CONDITIONS A UNIFORM WIDTH DEPRESSSED MEDIAN SHALL BE DESIGNED AS WIDE AS PRACTICAL.
- FOR DETERMINATION OF MEDIAN BARRIERS SEE SEC. IV ON MEDIAN BARRIERS IN AASHTO GUIDE FOR SELECTING, LOCATING AND DESIGNING TRAFFIC BARRIERS.
- SUFFICIENT LANES SHALL BE PROVIDED TO GIVE ADEQUATE CAPACITY FOR D.V.T. AT DESIGN YEAR. WHEN STAGE CONSTRUCTION IS PROPOSED FOR TWO LANE ONLY INITIAL LANES SHALL BE CONSTRUCTED TO THE GEOMETRICS AND CROSS SLOPE REQUIRED FOR THE ULTIMATE DESIGN. THE TWO LANED CROWN SECTIONS WILL BE DESIGNED IF ADDITIONAL LANES ARE NOT WARRANTED UNTIL AFTER DESIGN YEAR.
- ALTERNATE TYPICAL TO BE USED WHERE MEDIANS ARE LESS THAN 20 m WIDE AND WHERE SECTIONS OF LESS THAN 8m IN LENGTH EXIST BETWEEN SECTIONS OF COMPLETED ROADWAY.
- THE MINIMUM R/W CLEARANCE SHALL BE 6 m OUTSIDE THE TOE OF FILL SLOPES 9 m OUTSIDE THE TOP OF CUT SLOPE FOR THROUGH HIGHWAYS AND RAMP 3 m FOR FRONTAGE ROADS.

BENCHED SLOPE DETAIL

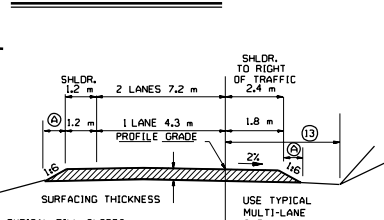
REQUIRED WHEN FILL TO BE PLACED ON ANY SLOPE STEEPER THAN 1:4

DEFLECTION ANGLE (deg.)	SLOPE HEIGHT (m)			
	2-5	5-10	10-20	20+
10-20	1.5	2	2.5	3
20-30	3.0	4	5.0	6
30-40	4.5	6	7.5	9
40+	6.0	8	10.0	12

SLOPE ROUNDING REQUIRED FOR THE SIDES OF CUT SLOPES AS WELL TOP OF CUT SLOPES.



CUT DITCH FLARING



	DESIGN SPEED (km/h)			
	80	100	110	120
MAXIMUM GRADE - FLAT TERRAIN	4	3	3	3
MAXIMUM GRADE - ROLLING TERRAIN	5	4	4	4
MAXIMUM GRADE - MOUNTAINOUS TERRAIN	6	5	5	-
MINIMUM CURVE RADIUS	250	435	560	755

STOPPING SIGHT DISTANCE: SEE STANDARD DRAWING 805-28

ALL DIMENSIONS ARE SHOWN IN METERS (m) UNLESS OTHERWISE NOTED.

REVISIONS

NO.	DATE	DESCRIPTION
1	12/14/88	J.A.L. CHANGED STEEPED SLOPE DETAIL TO BENCHED CORRECTED ROUNDING & SURFACE DITCH DETAIL. NOTE C OF TYPICAL FILL SLOPES AND SPELLING IN NOTE 11 AND ADDED NOTE 12.
2	8/22/22	J.A.L. ADDED SURFACE DITCH DETAIL AND ADDED NOTE 12.
3	8/22/22	J.A.L. ADDED SURFACE DITCH DETAIL AND ADDED NOTE 12.
4	8/22/22	J.A.L. ADDED SURFACE DITCH DETAIL AND ADDED NOTE 12.

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL

CHAIRMAN STANDARDS COMMITTEE

APPROVED

DEPUTY DIRECTOR

(METRIC)

GEOMETRIC DESIGN STANDARDS FOR FREeways (ROADWAY)

STD. DWG. NO.

815-1

STANDARD DRAWING TITLE